

## CLAIMS

1. A leakage detection apparatus for detecting the presence or absence of leakage between a high-voltage circuit and a low-voltage circuit, comprising:
- 5           a signal generator for generating a signal whose frequency is set variably;
- a resistant element for attenuating the signal from the signal generator in cooperation with an insulation resistor between the high-voltage circuit and the low-voltage circuit;
- 10           a capacitive element for capacitance-coupling one end of the resistant element to the high-voltage circuit;
- a low-pass filter whose cut-off frequency is set variably so as to pass a signal with a frequency set in the signal generator, for attenuating a high-frequency component via the capacitive element to be superimposed on
- 15           the signal via the resistant element;
- a leakage detection portion for comparing an amplitude level of a signal via the low-pass filter with a predetermined threshold value, and detecting the presence or absence of leakage between the high-voltage circuit and the low-voltage circuit; and
- 20           a control portion for setting the signal frequency of the signal generator and the cut-off frequency of the low-pass filter after startup of the low-voltage circuit and before startup of the high-voltage circuit to be higher than those after startup of the high-voltage circuit.
- 25   2. The leakage detection apparatus according to claim 1, wherein the low-voltage circuit includes a low-voltage battery composed of a plurality of combined secondary batteries and a first switch portion for conducting/interrupting power from the low-voltage battery with respect to a low voltage load, and
- 30           the high-voltage circuit includes a high-voltage battery composed of a plurality of combined secondary batteries, and a second switch portion for conducting power from the high-voltage battery with respect to a high-voltage load after the first switch portion is turned on and the leakage detection portion detects the absence of leakage, or interrupting the power from the
- 35           high-voltage battery with respect to the high-voltage load after the first switch portion is turned on and the leakage detection portion detects the presence of leakage.

**3. A motor-driven vehicle comprising the leakage detection apparatus of claim 1.**